

CHAPTER FOUR

Today's Firearms

Identification and Operation

Introduction

So you want to go hunting. To do that, you'll need a firearm and you'll need to learn how to operate it safely. On a trip to town, you visit the local sporting goods and gun shop. The wide variety of firearms—rifles, shotguns, handguns—amazes and confuses you. What's the difference in these firearms? What does each one do? Which firearm should you choose?

In this chapter, you'll learn about modern firearms: how they work, how to care for them and which ones to use for different types of hunting.

Before we get started, it is important to remember that a firearm is not a toy. A hunting firearm is designed to kill an animal quickly and effectively. **Used improperly or treated carelessly, it can kill or injure a person as quickly and effectively.** When you handle a firearm, show respect for it, the safety of others, and your own safety. Our goal in this chapter is to help you learn how to do just that.

A. How do firearms fire?

Despite their differences, all firearms operate using the same basic principles: the trigger is pulled, causing a firing pin to strike the primer; the primer ignites the gunpowder and the burning powder creates pressure; the pressure pushes the projectile (shot or a bullet) down the barrel and out the muzzle, or end, of the barrel. The diagram below shows what happens when the trigger is pulled or squeezed.

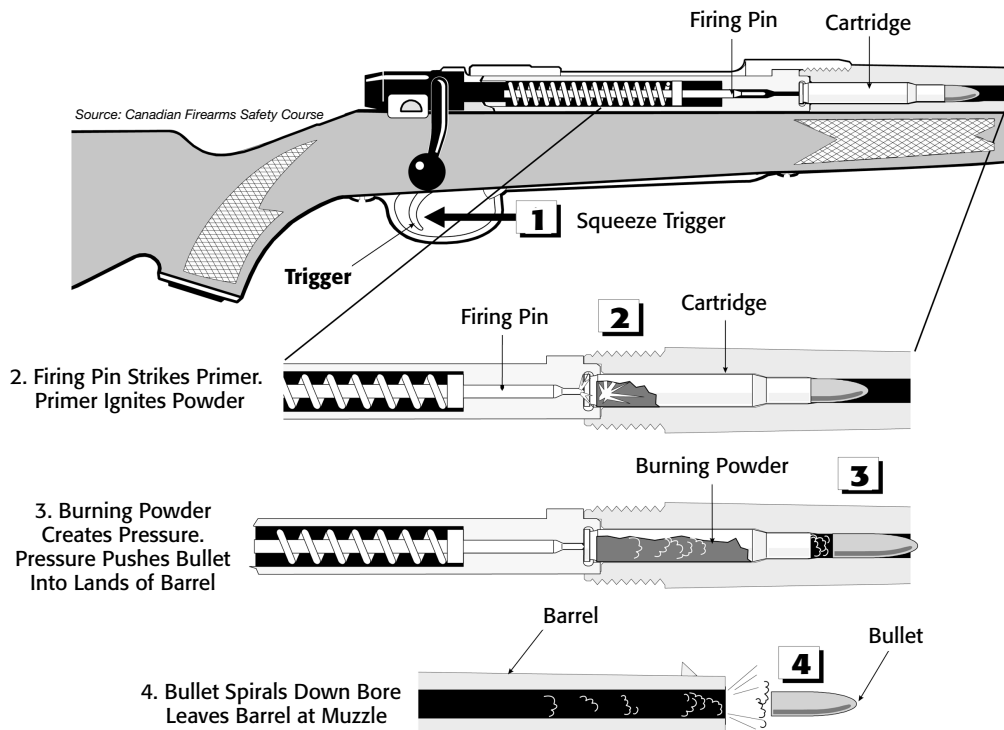
Key Words

Firearm	Handgun
Muzzleloader	Rifle
Breechloader	Shotgun
Muzzle control	Action
Safety	

Learning Objectives

At the end of this chapter, you will be able to:

- A. Explain how firearms fire.
- B. Understand and explain the differences between muzzleloaders and other modern firearms such as the single shot, manual repeating and self-loading repeating firearms.
- C. Identify and describe the functions of the different parts of firearms.
- D. Identify the basic parts of a handgun and explain how the different actions work.
- E. Explain the important differences between a rifle and a shotgun.
- F. Identify five firearm actions commonly found in rifles and shotguns and explain how they work.



B. Types of firearms

There are many different types of firearms. It is your responsibility to know how a particular firearm operates before you head out to hunt.

The First Firearms

Firearms have been around for over 500 years, and in that time they have undergone many changes.

Muzzleloaders. The first firearms were called **muzzleloaders** because the shooter had to load the gun from the muzzle, or front end, of the barrel. The shooter would first put the charge (black powder), then the wad, and finally the projectile (lead ball) down the bore, or inside of the barrel. He or she would use a rod to pack, or ram, the powder, wad and shot down into the bore.

There are five different types of ignition systems for muzzleloaders: wheel lock, matchlock, flintlock, in-line and percussion. The ignition system determines the type of muzzleloader.

Today, some hunters still prefer to use the muzzleloader. For them, hunting with this primitive firearm makes the hunt more of a challenge. For example, since muzzleloaders require more time to load than modern cartridge firearms, the hunter gener-



ally has only one chance to hit his or her quarry, or prey. He or she must therefore be a very good shot! Then too, since bullets from muzzleloaders don't travel as far as modern ammunition, a hunter must be able to get closer to his or her prey. That means mastering stalking skills and scouting techniques. And finally, muzzleloaders require special care and attention on the part of the hunter; for example, black powder won't ignite when it gets wet, so a hunter must take care to keep his or her powder dry.

Muzzleloaders also require specific loading equipment, and the hunter must follow certain loading procedures. Using incorrect equipment or improper procedures and sequences can cause serious injury to the shooter and bystanders. Always wear eye protection when loading and shooting a muzzleloader since eye injuries are possible from loose powder or powder burns, and from cap fragments. It is also important that you load only after arriving at the hunting site, and that you cap, or prime, your muzzleloader only when your target has been identified, and you are ready to shoot. Never load directly from the black powder flask, always load from a separate measuring device. Black powder is an explosive. Any spark or ember remaining in the barrel may ignite the powder being poured, potentially causing serious injury. **Read and follow the firearm's manufacturer's instructions and recommendations.** Know and understand your muzzleloader before loading and shooting.

Where to go for help

If you are interested in using a muzzleloader to hunt, you may find help at one of the many black powder shooting clubs whose members are more than willing to show a "greenhorn" how to properly load, shoot, and care for a muzzleloader. And, if you will be using an old or unfamiliar muzzleloader, be sure to have a gunsmith check it out before you use it since old metal may become fatigued and break.

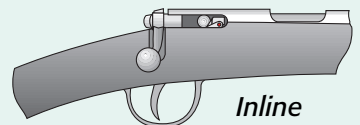
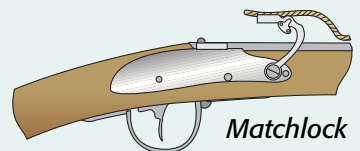
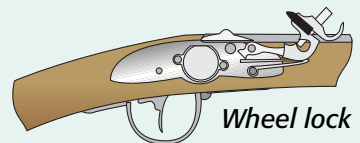
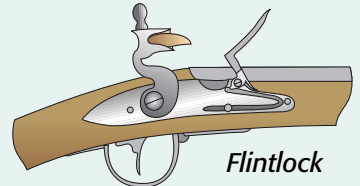
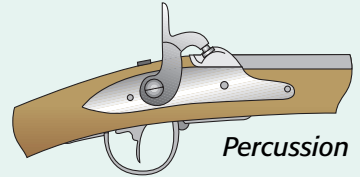
NOTE: Black powder and black powder substitutes are the only two powders that can be used in a muzzleloader. Pyrodex® is an example of a modern substitute for black powder. Smokeless modern powders may damage muzzleloaders and can seriously injure the shooter.

Modern firearms

Today, breech-loading firearms have all but replaced muzzleloaders.

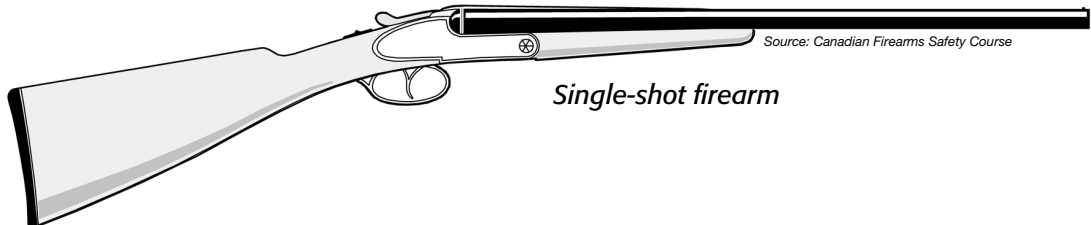
The **breech-loader** is loaded from the rear, or breech end, of the barrel. This allows for quick reloading. Modern firearms tend to be lighter and to shoot farther with greater accuracy than muzzleloaders. Modern fixed, or self-contained, ammunition is also easier to use than the old loose powder and ball used in muzzleloaders. The smokeless gunpowder used in modern ammunition is clean burning and much more powerful, developing much higher chamber pressures than an equal quantity of black powder. Fixed ammunition is also more "weather proof" than black

Muzzleloader Locks



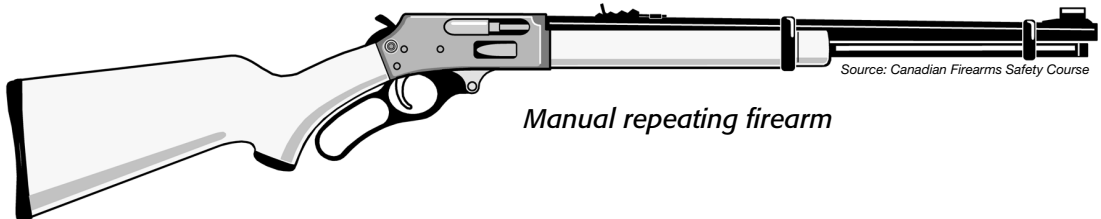
powder and is thus generally more dependable in wet weather. Modern firearms can be classified as **single shot**, **manual repeating**, or **self-loading repeating**. In each classification there are rifles, shotguns and handguns.

Single shot. The first modern firearms were **single shot**. They had no magazines to hold ammunition. After each shot, the shooter had to open the action, remove the spent cartridge and load a new one. A hinge or break action shotgun is an example of a single shot firearm.



Single-shot firearm

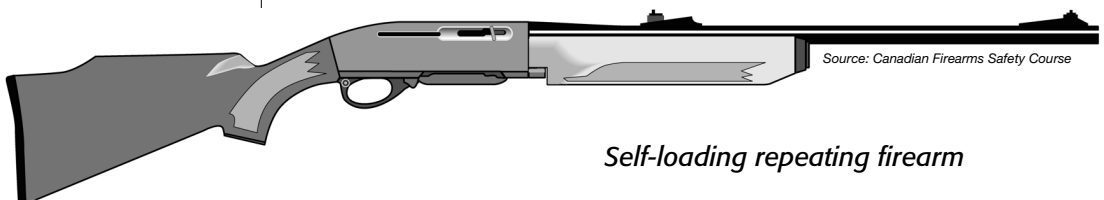
Manual repeating firearms can be fired more quickly. Simply by working the action, the shooter ejects a cartridge from the chamber and then loads a new cartridge from the magazine. A lever action rifle is an example of a manual repeating firearm.



Manual repeating firearm

Self-loading repeating. **Semi-automatic** and **fully automatic** firearms are self-loading. These firearms have a magazine. Semi-automatic firearms are either recoil or gas operated. In a gas operated model some of the gas pressure from the fired cartridge is tapped off the barrel and used to push a piston backward, causing the action to open and eject the fired cartridge. In a recoil operated firearm, the force of the empty case being pushed backward by the same gas that is pushing the bullet forward and out of the barrel causes the action to open. On the return a spring causes the action to close. As the action closes, it chambers, or loads, a new cartridge from the magazine.

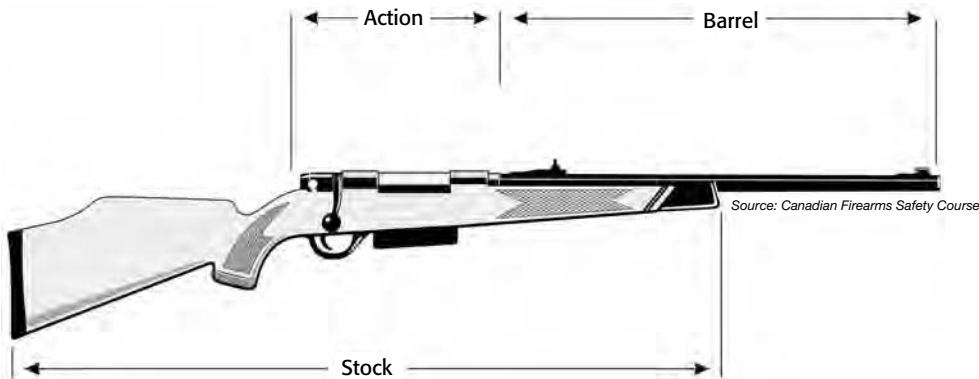
What do semi-automatic and fully automatic mean? In a semi-automatic, one cartridge is fired with each squeeze of the trigger. In a fully automatic, the firearm will keep shooting until the trigger is released or until the firearm runs out of ammunition.



Self-loading repeating firearm

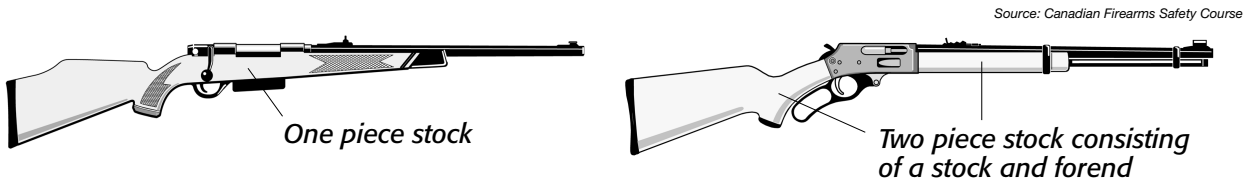
C. Basic parts of firearms

Regardless of the type of firearm, they share three common, basic parts: the **stock**, **barrel** and **action**. The type or style of firearm determines the type of action used.



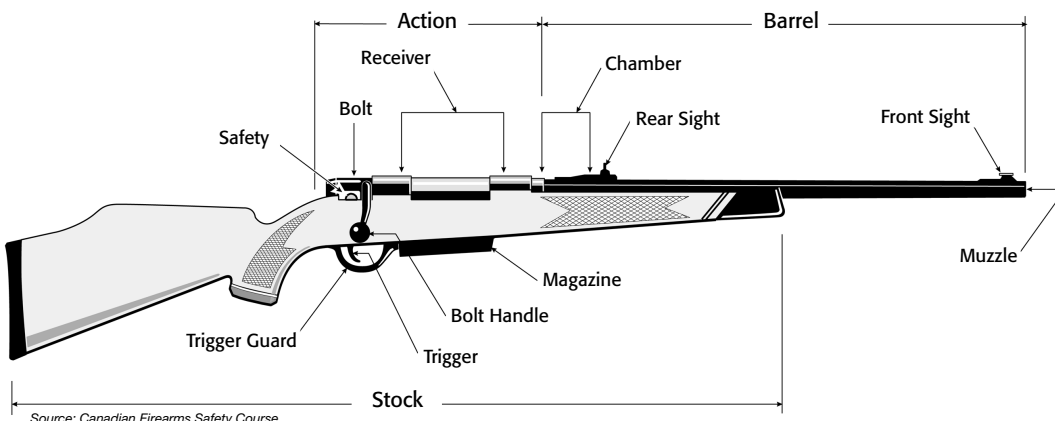
Stock

The stock supports the firearm assembly. Without it, you cannot control and use the firearm properly. Stocks are made of wood, rubber, plastics and other materials. They can be one piece or two pieces for rifles or shotguns.



Barrel

The barrel is the metal tube through which the projectile (shot or bullet) travels. The parts of the barrel are: **chamber**, **bore**, **muzzle** (front), **breech** (rear) and **sights**. Barrels may have sights attached. Sights help you aim or point. Some firearms may have more than one barrel. You may have barrels side by side or over and under.



Chamber. The chamber is located at the rear of the barrel. This is where you insert the ammunition. Check the stamp on the barrel to ensure you have the right ammunition. The data stamp on the barrel should match the data stamp on the cartridge.

Bore. The inside of the barrel is called the **bore**. The distance across the bore is called **bore diameter**. In a rifle or handgun, bore diameter is measured in **caliber**. In a shotgun, it is measured in **gauge**.

Caliber is a direct measurement of the inside diameter of a rifle barrel. It is expressed in thousandths of an inch. For example, a .22 caliber rifle has a bore diameter of 22/1000 inch.

Gauge refers indirectly to the bore diameter of a shotgun. Gauge number refers to the number of lead balls having the same diameter as the bore of the shotgun that it takes to make up one pound of lead. This is an old British measurement system. For example, a 16-gauge shotgun has a bore diameter such that 16 lead balls of that bore diameter would weigh a pound. In a 12-gauge shotgun, 12 balls of that diameter make up a pound. Can you figure out which gauge shotgun has a wider bore diameter?

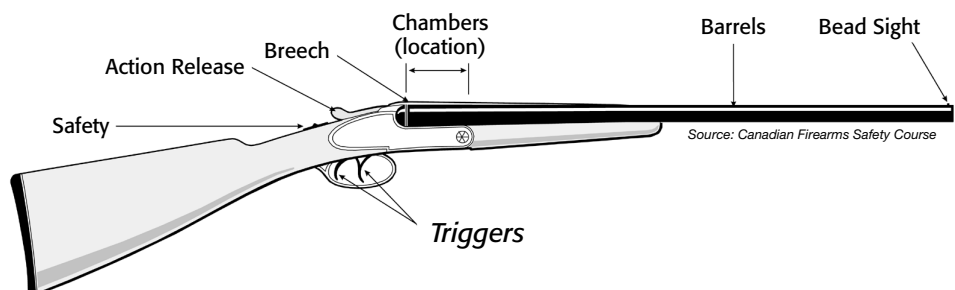
Muzzle. The **muzzle** is the opposite end of the barrel from the breech. The muzzle is the front end of the barrel and the breech the back end.

Since the muzzle is where the projectile leaves the bore, you must maintain **muzzle control** at all times, even when the firearm is unloaded. **ALWAYS POINT THE MUZZLE IN A SAFE DIRECTION.**

Action

Actions contain the parts that load, unload and fire the cartridge. The stock and barrel are attached to the action. Actions come in various styles. The parts of the action are **trigger**, **safety**, **bolt** and **magazine**. The parts of the action and how they are arranged determine the action type.

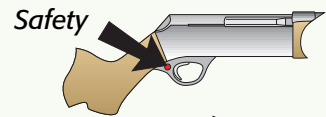
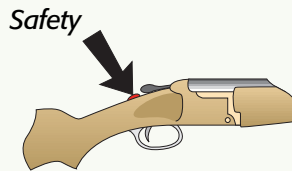
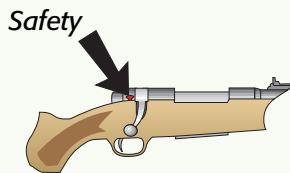
Trigger. When the trigger is pulled, the **firing pin** strikes the **primer**, which ignites the gunpowder in the cartridge. The trigger is located inside the **trigger guard**. Some multi-barrel firearms may have more than one trigger.



Safety. The safety is a mechanical device used to prevent the firearm from firing. Most safety devices block the trigger, keeping it from being pulled. Safeties come in various styles and are located in various places. **Be careful: Most safeties block the trigger and nothing else!** A hard blow to the firearm such as a fall can still cause the firearm to fire. A safety may wear out over time.

Learn how to use your safety, but always control the muzzle. **SAFETIES, LIKE ALL MECHANICAL DEVICES, CAN FAIL.** Never rely on a safety to prevent a gun from firing.

Safety Locations



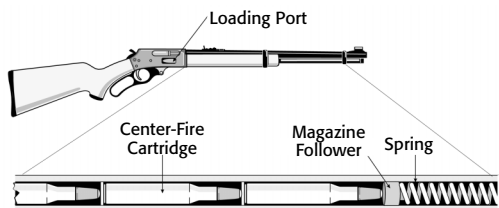
These are only some common locations. Safeties can also be found in other locations.

Magazine. The magazine is a device that holds several rounds of ammunition. There are two types of magazines: **tubular** and **box**. The pictures below show where the magazine is located on different firearms and how cartridges are held in them.

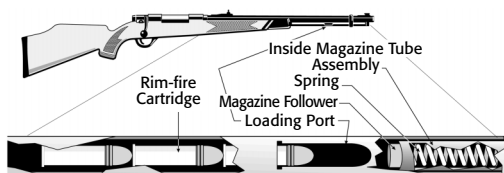
Caution: NEVER use cartridges with pointed bullet tips in tubular magazines. Use only cartridges that have round- or flat-nose bullets.

Bolt. The bolt contains the firing pin and in many cases the striker (hammer).

Tubular Magazines



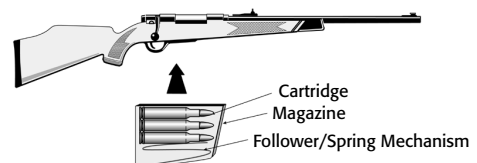
Center-Fire Tubular Magazine



Rim-fire Tubular Magazine

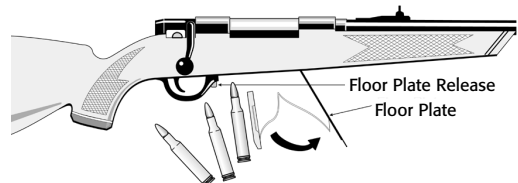
Source: Canadian Firearms Safety Course

Box-type Magazines



OR:

An alternative is the hinged floor plate magazine



Source: Canadian Firearms Safety Course

Firearms Parts

Part	Purpose/Description
Action	Located at the breech end of the barrel. This is where cartridges are loaded, fired and ejected.
Break action	A type of firearm action that opens or "breaks" at the breech by pivoting on a pin or hinge after a lever or locking mechanism is released. Also called a hinge action. May be a single or double-barreled firearm.
Bolt action	A type of firearm that loads or unloads ammunition by working a bolt.
Lever action	A type of firearm that loads or unloads ammunition by working a lever located near the trigger.
Pump action	A type of firearm that loads or unloads ammunition by moving the forend back and forth for each shot. Also called a slide action.
Semi-automatic	A firearm which fires a cartridge, ejects the empty case, cocks the action hammer or firing pin and chambers a new cartridge with each pull of the trigger.
Action release	A manually operated lever, button or handle that activates the opening and/or closing of the action.
Barrel	The tube down which a bullet or projectile travels when a firearm is fired.
Breech	The part of the barrel at the opposite end from the muzzle. The action is located here.
Bore	The inside of the barrel of a firearm.
Butt	The part of the stock which is held against your shoulder.
Bullet	A single projectile fired from a handgun or rifle. It is one part of a cartridge.
Caliber	In rifled firearms, the distance measured in inches between the lands of the barrel rifling. Note: Caliber does not refer to the diameter of a projectile, otherwise it would measure the distance between the grooves in rifled firearms, and not the lands.
Cartridge	A complete round of ammunition which includes primer, powder, case, and the bullet or shot. Cartridges may be either rim-fire or center-fire.
Center-fire	A cartridge in which the primer is located at the center of the base. Generally more powerful than the rim-fire cartridge.
Rim-fire	A cartridge with no noticeable primer. The priming compound is embedded in the rim of the case.
Case	A container which holds primer, powder, and the bullet or shot.
Chamber	The breech end of the barrel into which the cartridge is loaded by way of the action.
Choke	A narrowing at the end of the barrel which controls the spread of the shot.
Firearm	A tool which shoots a projectile or bullet by burning gunpowder.
Firing pin	The part in the breech or bolt of a firearm which strikes the primer and explodes the charge. Also called the hammer.
Forearm/Forend/ Forestock	The part of the stock under the barrel used for gripping the front part of the firearm.
Gauge	The measure of the size of the bore of a shotgun. It is determined by the number of lead balls (balls which have the same diameter as the bore of the shotgun) equal to one pound.
Handgun	A type of firearm with a short barrel that is fired at arm's length. Your hand holds the butt of the handgun.
Lands	Ridges left when spiral grooves are cut into the bore of a firearm barrel. They center the bullet in the barrel.

Firearms Parts *(continued)*

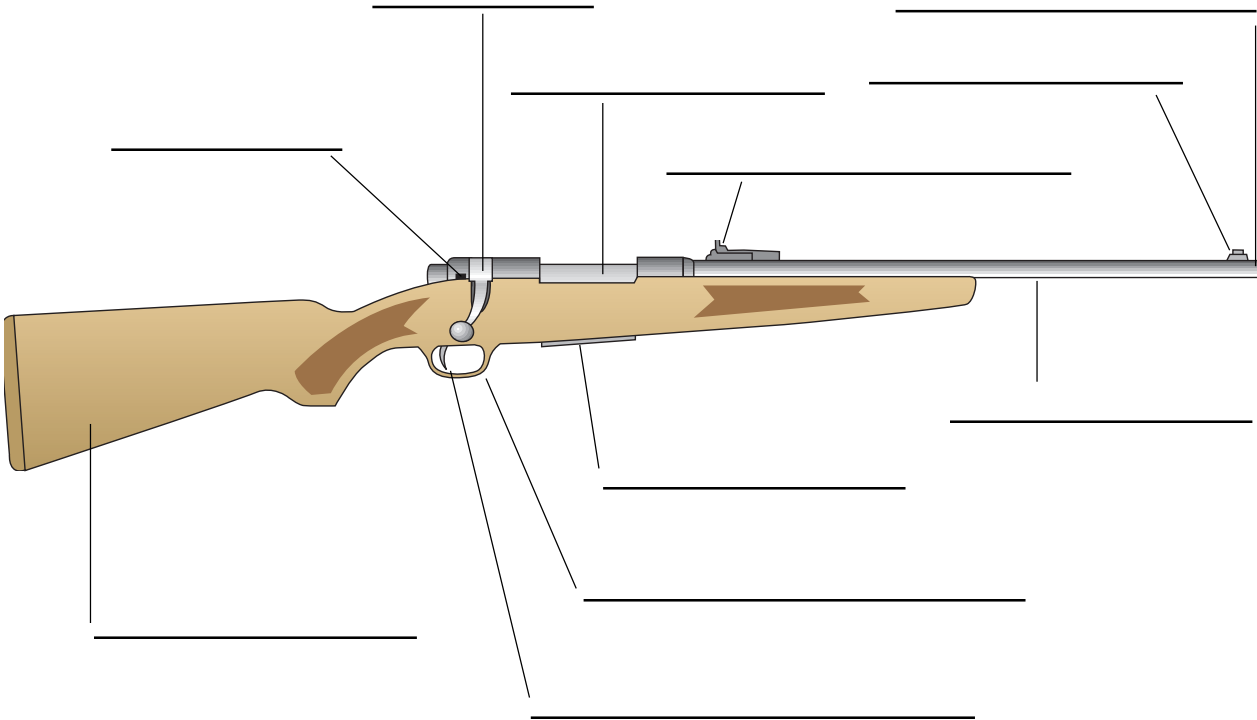
Part	Purpose/Description
Magazine	The part of the repeating firearm which holds ammunition until it is ready to be fed into the chamber. It is attached to the action and may be fixed, detachable or tubular.
Fixed	A type of magazine that requires you to open the bolt to load the rounds. It is usually associated with bolt action firearms.
Detachable	A type of magazine that is loaded separately from the firearm. Once loaded, the magazine is then inserted into the magazine well and the action is worked to chamber the first cartridge. This type is usually associated with semi-automatic firearms, but it may also be found in bolt actions.
Tubular	A type of magazine that is loaded from the side or bottom of the action. It is normally associated with lever action and pump action firearms. Today's .22 rimfires are exceptions: they are normally loaded near the muzzle end of the firearm.
Muzzle	The open end of the barrel through which the projectile exits.
Pellets/Shot	Small round balls of lead, steel, or metal alloy that are shot primarily from a shotgun and form a pattern. Also called shot.
Powder	A rapidly burning material found in centerfire or rimfire ammunition which turns into a gas creating a very high pressure which pushes the projectile through and out the end of the barrel.
Primer	An explosive cap used to ignite the powder when struck with a sharp blow from the firing pin.
Projectile	For firearms, a bullet, slug, or pellet.
Rifle	A shoulder-mounted and fired long gun with spiral grooves cut into the bore from its breech to the muzzle.
Rifling	Spiral grooves cut into the bore of a firearm. They make the bullet spin.
Safety	A mechanism that helps to keep the trigger from moving or the firing pin from operating. It is designed to keep the firearm from being accidentally fired. The safety may be a button, moveable pin, thumb lever, thumb hammer or sliding plate. Like any mechanical device it can fail or wear out. A hard blow to the firearm could disengage or damage the safety.
Shot shell	A round of ammunition used for shotguns. It contains primer, powder, wad, shot or slug, and a case.
Shotgun	A shoulder-mounted and fired long gun usually having a smooth bore (no rifling), which shoots pellets of lead, steel, or other metal alloy.
Sights	All sights are on top of the barrel. They are used to aim the firearm. They may be open, aperture (also known as peep sights), telescopic, laser or dot.
Smooth bore	A firearm without rifling in the barrel; usually a shotgun.
Stock	The stock supports the firearm assembly. Without it you lose your ability to control and use the firearm properly. Stocks can be made from wood, metal, or synthetics.
Trigger	The device that releases the firing pin or hammer and causes the projectile to be shot from the firearm.
Trigger guard	The device that protects the trigger from being accidentally pulled or bumped.
Wad	The paper or plastic material placed, as a plunger, between the powder and shot in a shot shell.

Student Worksheet

The Parts of a Rifle

(Bolt Action)

Instructions: Write in the name of each rifle part in the appropriate blank.



Storing a handgun

D. Handguns

A **handgun** is a firearm with a short barrel that is fired at arm's length. Your hand holds the butt of the handgun. Handguns are made in many sizes.

Safety

Due to a handgun's short barrel and single hand grip, it is more difficult to keep the muzzle pointed in a safe direction. For the same reason, they are harder to shoot accurately.

Basic Handgun Parts

A handgun has three major parts. They are the **frame**, **barrel** and **action**. Revolvers have a cylinder; semiautomatics have a magazine that holds the ammunition.

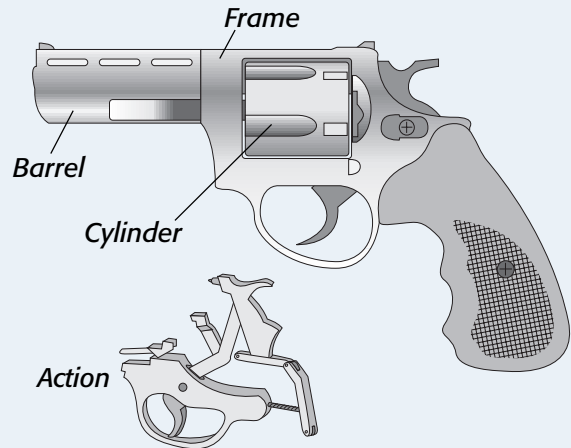
The **frame** is the metal housing that gives a handgun its shape.

The **barrel** connects to the frame and is the tube for the bullet to travel through.

The **action** fires the cartridge. Actions are made up of the trigger, mainspring and hammer.

Handgun sights look like open sights on a rifle. The rear sight may be set by the manufacturer or some can be adjusted by the owner.

Parts of a handgun



Modern handgun actions

Break

1. Each shot is loaded by hand.
2. The spent case is ejected by breaking the action open or pulling the bolt back.
3. It is loaded only when ready to be fired.
4. The half-cock position may be unreliable.

Revolver

1. Rotating cylinders hold cartridges ready to fire.
2. The cylinder contains chambers into which cartridges are loaded.
3. The rotating cylinder aligns each chamber with the barrel each time it is cycled.
4. Modern revolvers are either single action or double action. Single action requires the manual cocking of the hammer before you are able to pull the trigger.

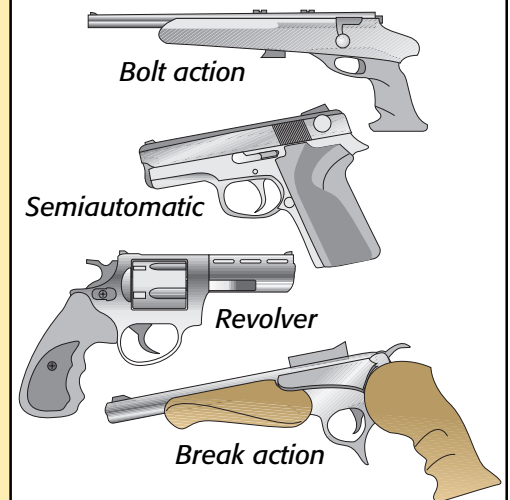
Semiautomatic

1. Operates like shotguns and rifles.
2. Most are loaded with a detachable magazine.
3. Cartridges are pressed into the magazine; this is inserted into the bottom of the grip frame.
4. Semiautomatics feature an action which ejects the spent round and chambers the next one.
5. Some semiautomatics have an internal hammer. Others have an external hammer.
6. Use the thumb safety.

Bolt Action



1. Operates like rifles or shotguns.
2. Each round is loaded by hand.
3. Spent case is ejected by pulling bolt back.

Handgun actions



E. Rifles and shotguns: what's the difference?

Most hunting in Montana is done with rifle or shotgun. They may look similar, but there are some important differences and these differences determine the specific uses of each firearm.

-  A **rifle** is designed to hit a point accurately.
-  A **shotgun** is designed to hit a moving target with a spread of pellets called shot.

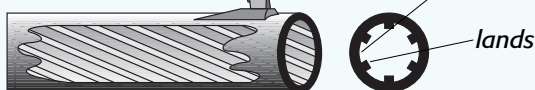
	Rifle	Shotgun
Bore	Grooved	Smooth
Projectile	Single	Multiple
Effective range	Long (100-300 yards)	Short (20-50 yards)
Sights	Front and rear	Front

Let's look more closely at how the **bore**, **projectile**, **effective range** and **sights** differ on the rifle and shotgun.

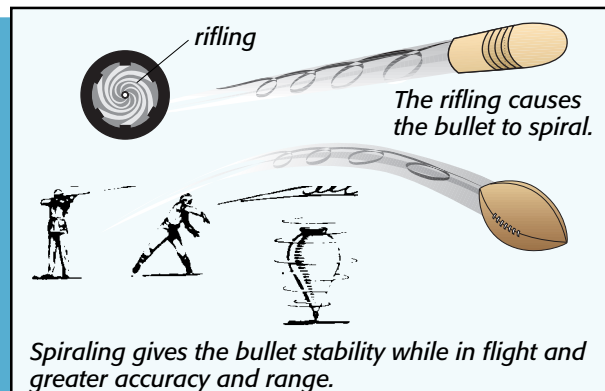
Bore. A rifle gets its name from the spiral grooves inside its barrel, called **rifling**. The grooves spin the bullet and stabilize it in flight. This makes the bullet fly straight and increases a rifle's range and accuracy. A shotgun's barrel wall is thinner than that of a rifle and the inside surface, or bore, is smooth.

Bore Types

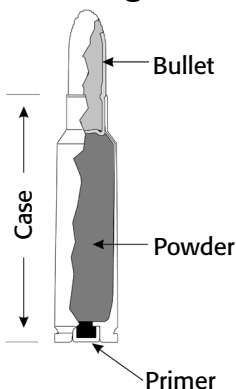
Rifle – rifled bore



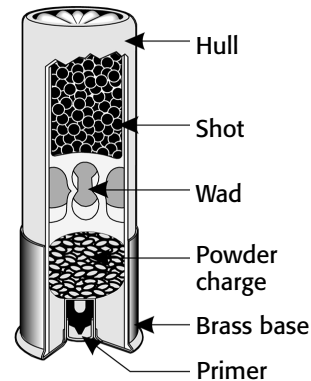
Shotgun – smooth bore



Cartridge



Shotshell



Source: Canadian Firearms Safety Course

Projectile. A rifle shoots a single projectile or **bullet** contained in a **cartridge**. The cartridge consists of a **case**, which holds the **gunpowder**; a **primer**, which ignites the gunpowder; and a **bullet**.

A shotgun is used to fire small lead or steel pellets called **shot**. The **shotshell** is made up of a **hull** and a **brass base**. In addition to hundreds of pellets, the shotshell contains a **primer**, which ignites the **powder charge**, and a **wad**, which separates the shot from the powder charge. A shotgun can also shoot a type of bullet called a slug.

Effective range. A rifle has a much greater effective range than a shotgun.

Rifle

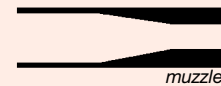
A **rifle** bullet can travel more than 3,000 feet per second and cover a distance of several miles. The velocity of a high-powered rifle bullet, even after it has gone several miles, is still enough to cause serious damage to living creatures including people.

Shotgun

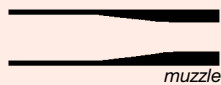
A **shotgun** spreads or sprays its charge of shot in a wider and wider circle. The shot pellets travel at about 1,100 feet per second and have a maximum range of a few hundred yards.

When a **shotgun** is fired, the pellets shoot out of the barrel. They begin to spread as soon as they leave the barrel. The farther they travel, the more they spread. Eventually they lose their effectiveness. The exact spread of the shot is determined by a constriction or narrowing at the muzzle called a **choke**.

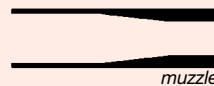
Common chokes used for hunting and shooting sports



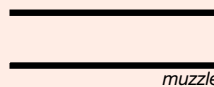
1. Full choke is the most constricted. It keeps the shot close together. Full choke is used for long shots, generally when hunting ducks or geese or shooting trap. *Effective range: 40+ yards*



2. Modified choke is less constricted than full. It is the best all-around choke. It is used for hunting both waterfowl and upland birds. *Effective range: 35+ yards*



3. Improved cylinder choke is less constricted than modified. It is used for hunting upland birds or ducks over decoys. *Effective range: 25+ yards*



4. Cylinder bore means there is no choke in the barrel. The shot spreads quickly as soon as it leaves the barrel. It is used for very close shots.

Detail exaggerated for emphasis.

Sights. The sights on a rifle are designed for accurate **aiming**. The single-bead sight on a shotgun is not designed for accuracy but for **pointing**. With a shotgun, the shooter does not aim so much as “look” down the barrel at the target with both eyes open. The shooter “points” at and follows the target in much the same way you would point and follow with your finger.

Rifle	Shotgun
Front and rear sights	Front, or bead, sight only

F. Identifying and operating firearm actions

You must be able to recognize which type of action a rifle or shotgun has, understand how it works, and operate it safely and correctly. Before handling any firearm, open the action and determine whether it is loaded or unloaded. **TREAT EVERY FIREARM AS IF IT WERE LOADED** even if you have checked and know that it is unloaded.

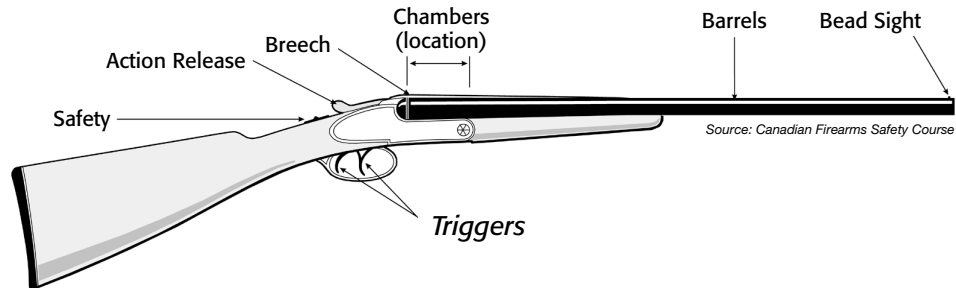
There are five basic firearm actions: **break, bolt, pump, lever** and **semi-automatic**.



Photo courtesy Iowa DNR, Clay Smith

Break action

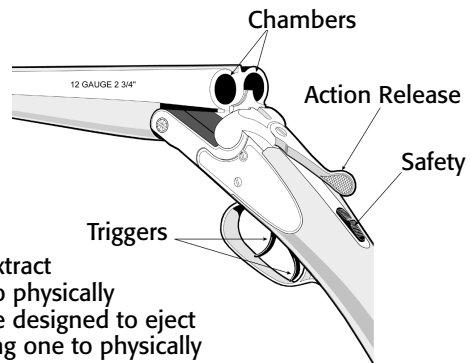
A **break action** firearm opens or “breaks” in the center, like the movement of a door hinge. Break action firearms do not have magazines and are generally single or double barreled.



How to Operate a Break Action

- Locate the action-release lever. The release lever is located either on the top of the grip of the stock, or in front of or under the trigger guard.
- Push the action-release lever to one side and, while keeping a firm grip on the stock, move the barrel or barrels downward. Keep good firearm and muzzle control, and your finger off the trigger.
- Break actions will have either **extractors** or **ejectors**. Extractors extract the cartridge a short distance out of the chamber, enabling one to physically remove spent or loaded cartridges from the firearm. Ejectors were designed to eject spent cartridges out of the firearm while at the same time allowing one to physically remove a loaded cartridge(s) from the firearm.
- Examine the bore from the chamber end of the barrel(s) to check for obstructions.
- To load a break action, locate the data stamp on the barrel and identify the correct ammunition for this firearm. Open the action. Manually insert the new ammunition into the chamber and close the action, while keeping good muzzle control.

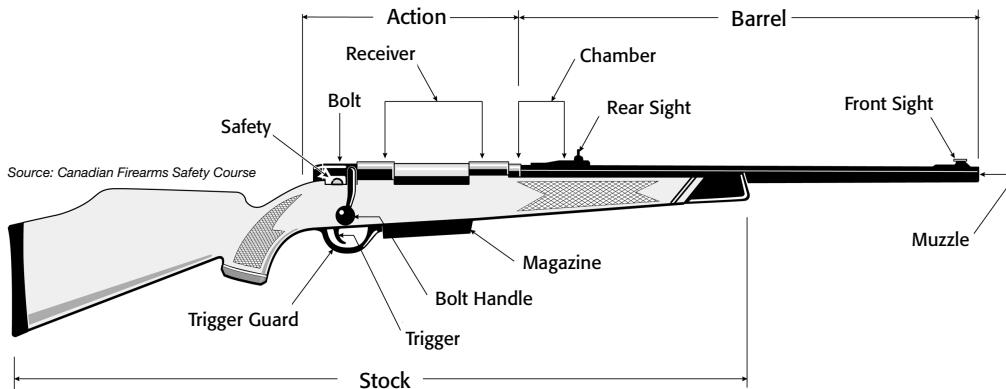
NOTE: On some break actions the safety automatically engages when the action is closed. In most break actions, you have to engage the safety yourself.



Source: Canadian Firearms Safety Course

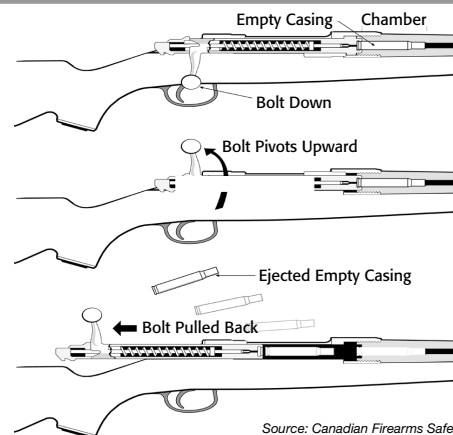
Bolt action

A **bolt action** firearm operates by a “lift, pull back, push forward and then down” sequence of the bolt similar to a door bolt. You can find this action on rifles and shotguns. If the bolt action rifle has no magazine it is a single shot firearm. If it is equipped with a magazine it is classified as a manual-repeating firearm. The magazine may be either a fixed part of the action located under the bolt when the bolt is in a closed position or, it may be a removable box type magazine that slides into and out of the same location.



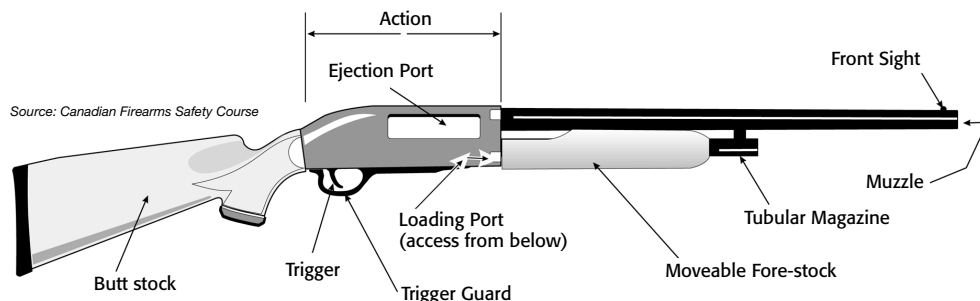
How to Operate a Bolt Action

- A bolt action firearm operates with a lift, pull back, push forward and down sequence similar to a door bolt.
- On some models, the action may not open if the safety is on. Make sure that the muzzle is pointed in a safe direction. Release the safety and then, while keeping your finger off of the trigger, carefully open the action.
- To load a bolt action firearm, open the bolt and insert the ammunition into the magazine from the top of the action. When the action is closed, a round of ammunition will be fed from the magazine into the chamber. Ammunition is ejected and loaded from the magazine by simply operating the action.



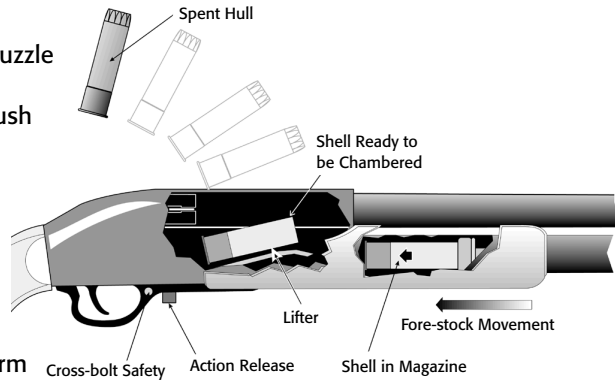
Pump action

The **pump action** is so named because the shooter pumps the moveable fore-stock back and forth in order to open and close the action. This pumping action empties the chamber and loads a new cartridge or shotshell from the tubular or box type magazine. Both left- and right-handed shooters can easily work this action. Pump actions are most common in shotguns, but some rifles also have a pump action.



How to Operate a Pump Action

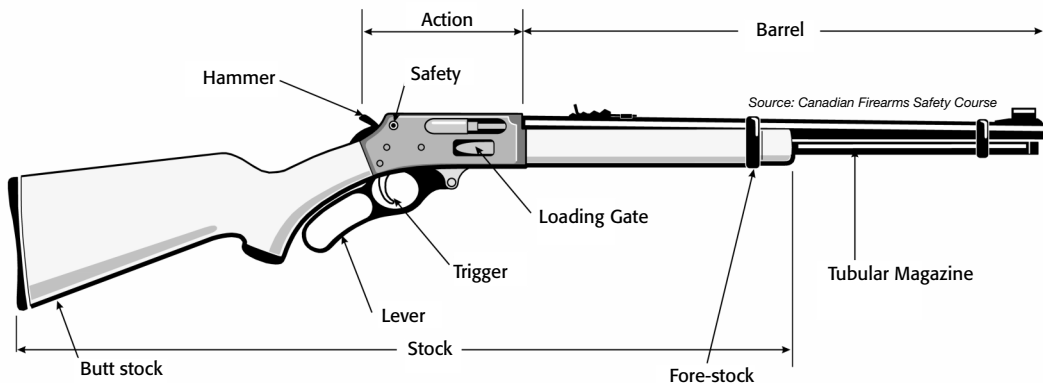
- Locate the action-release button. Make sure the muzzle is pointed in a safe direction.
- Remember to keep your finger off of the trigger. Push and hold the action-release button while pumping the action. On most pump shotguns you do not need to use the action-release button if you have just shot the firearm. Simply pump the action to open it.
- Once fired, each time thereafter that the action is pumped an empty case is ejected, a live round of ammunition is loaded into the chamber from the magazine, the hammer is cocked and the firearm is ready to shoot.
- With your finger off the trigger, pump the action safe by cycling the action several times to ensure the chamber and magazine are empty. Visually check to ensure the chamber is empty. Leave the action open when not hunting.



Source: Canadian Firearms Safety Course

Lever action

A **lever action** firearm has a metal handle or lever located just behind the trigger. Its pivot pin is located in front of the trigger. This action is manufactured so that both left- and right-handed shooters can easily work the action.



Source: Canadian Firearms Safety Course

How to Operate a Lever Action

- Make sure that the muzzle is pointed in a safe direction. Keep your finger off the trigger.
- Open the action by pulling or pushing the lever in a downward direction, pivoting it away from the stock and forward toward the muzzle of the barrel.
- This movement ejects any cartridge or empty case and cocks the hammer. It also lets a live cartridge slide from the magazine onto a carrier.
- Close the action by moving the lever back to its original position. This lifts the live cartridge to a position at the mouth of the chamber. Closing the action completely pushes the live cartridge into the chamber and locks the action. The firearm is ready to shoot.

Many lever actions use a safety that requires you to put the hammer down to half cock. The following steps are for right-handed shooters. NOTE: It is best to have someone who has experience with lever actions teach you how to do these steps safely.

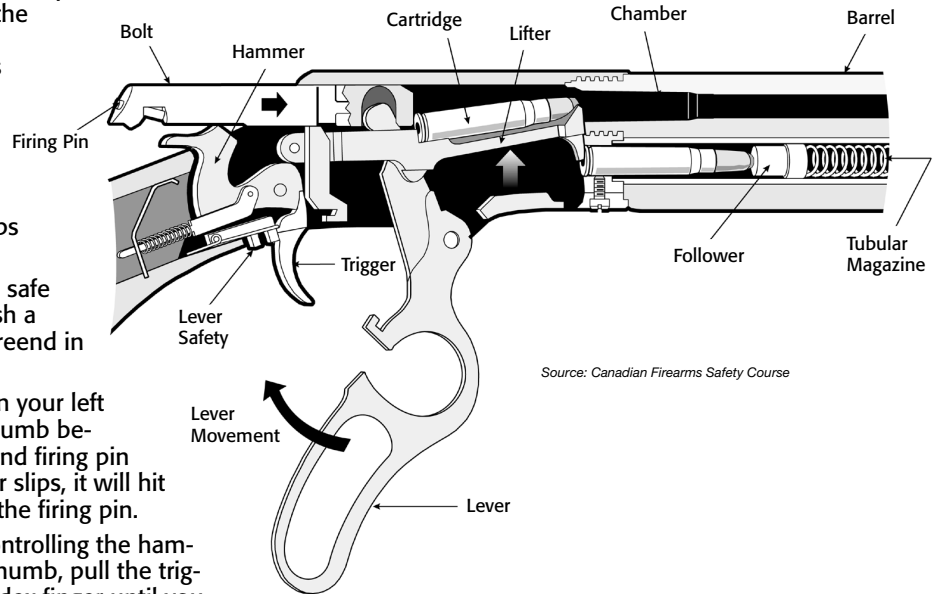
- Point the muzzle in a safe direction and establish a firm grip of rifle at forend in front of the action.
- Holding the firearm in your left hand, put your left thumb between the hammer and firing pin so that if the hammer slips, it will hit your thumb and not the firing pin.
- While holding and controlling the hammer with your right thumb, pull the trigger with your right index finger until you feel the hammer release.
- Let go of the trigger and use your right thumb to lower the hammer all the way down, then pull it back to the half cock notch.

NOTE: To operate safely a lever action, and/or exposed hammer firearm one must be of sufficient stature and strength to safely manipulate the lever during cycling of the action, as well as the de-cocking/cocking of the hammer. If unable to safely work a lever action one should consider another type that is more appropriate to his or her physical abilities.

In order to shoot the firearm, the hammer must be fully cocked. When you are ready to shoot— and while keeping your finger off of the trigger—pull the hammer with your right thumb all the way back until it locks into the full cock position. Squeezing the trigger will fire the firearm. Some lever actions require that you squeeze the lever while squeezing or pulling the trigger.

DANGER: You must practice this procedure with an unloaded firearm many times until you can do it correctly and safely every time before attempting it with a loaded firearm.

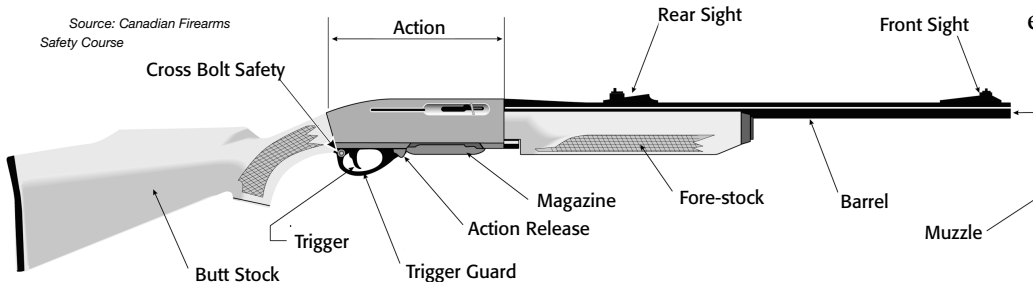
To unload a lever action, work the lever action forward and back until all cartridges are ejected. Keep your finger off the trigger when working the action to unload the firearm otherwise it WILL fire.



Semi-automatic action

A **semi-automatic** is a firearm with a self-loading action. Once the shooter loads the magazine, cycles the action once and pulls the trigger, the action automatically ejects the spent cartridge or shotshell, reloads a new round of ammunition, and cocks the firing pin or hammer. The firearm is semi-automatic because the trigger

must be pulled for each round of ammunition discharged. The semi-automatic action is found in rifles, shotguns, and handguns.



How to Operate a Semi-automatic Action

Source: Canadian Firearms Safety Course

IMPORTANT: You must remove the cartridge in the chamber as well as the source of ammunition in a semi-automatic firearm to PROVE it unloaded. If the firearm has a removable magazine, remove it. This ensures that there can be only one round of ammunition in the firearm. To remove this round, operate the cocking lever or slide to eject the cartridge from the chamber.

Most semi-automatic firearms have a button or lever to lock the action open. Engage this button or lever while holding the action open to block it from closing. This allows you to **look into the chamber** and **verify** that the **feedpath** is clear. Do not put your finger in the action to see if the chamber is empty. If the action closes accidentally, you might injure or sever your finger. Some models of semi-automatics lock open when the last cartridge is shot from the firearm.

How to load a semi-automatic:

The following steps provide a general guideline for how to load a semi-automatic firearm. We recommend that you have someone who is experienced with your type of semi-automatic show you how to load and unload it safely and correctly.

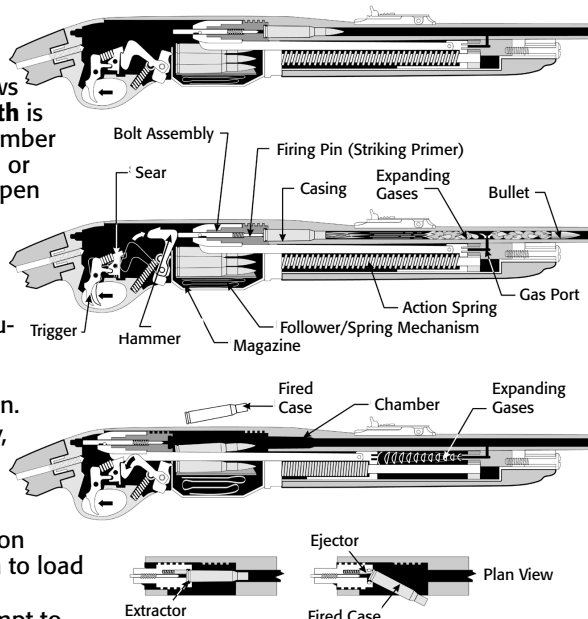
- Make sure that the muzzle is pointed in a safe direction.
- If the firearm has a trigger block or other type of safety, engage it.
- If the magazine is removable, insert correct cartridges for the firearm into the magazine. If not, insert cartridges into the fixed magazine in the firearm. The action should be closed at this point unless it has to be open to load the magazine.
- Open the action as far back as it will go. **DO NOT** attempt to manually put a cartridge into the empty chamber. Make sure you see that the action picks up the cartridge and moves it to the empty chamber as you allow the action to close with full spring force.
- The firearm is now loaded and ready to fire when the safety is released.

How a semi-automatic works:

Semi-automatic firearms are either recoil- or gas-operated. In a gas-operated model some of the gas pressure from the fired cartridge is tapped off the barrel and used to push a piston backwards, causing the action to open. A spring causes the action to close.

In a recoil-operated firearm, the force of the empty case being pushed backward opposite to and while the bullet is being pushed forward and out of the barrel causes the action to open. A spring causes the action to close. In either method the action throws out the empty case, cocks the firing pin or hammer, and loads another live cartridge from the magazine into the chamber. It's ready to shoot with the next pull of the trigger.

Both recoil- and gas-operated semi-automatics should be kept clean and proper ammunition should be used. Otherwise the firearm will jam or not work properly. **NOTE:** Some brands of ammunition are not powerful enough to operate a semi-automatic action.



Chapter Four Quiz

1. What are the three basic parts of rifles and shotguns? (Mark the correct answer.)
☐ sights, trigger, barrel
☐ stock, barrel, action
☐ stock, trigger, sights
2. "Always point the muzzle in a safe direction." Which end of the barrel is the muzzle? (Mark the correct answer.)
☐ front end
☐ back end
3. Why should you never rely solely on a safety to keep a gun from firing accidentally? (Mark the correct answer(s).)
☐ the safety is a mechanical device and may wear out
☐ safeties are usually well made but should not be relied on
☐ a hard blow such as a fall can cause a gun to fire
4. List the five basic firearm actions.
 1. _____
 2. _____
 3. _____
 4. _____
 5. _____
5. What is the typical effective range of a shotgun? (Check the correct answer.)
☐ 10-20 yards
☐ 20-50 yards
☐ 50-70 yards
6. Would you use a rifle or a shotgun to hunt pheasants?
☐ rifle
☐ shotgun
7. Write out the four basic rules of firearm safety.
 1. _____
 2. _____
 3. _____
 4. _____